

**Serial No. 09/965,570**  
**Atty. Doc. No. 01P17904US**

### **REMARKS**

Claims 1-15 are pending in the application. Claims 1-15 have been rejected. Applicants have amended claims 1, 2, 3, and 5 to remove the word "means" in order to clarify that the relevant limitations in these claims are not means-plus-function limitations. Applicants have also removed the limitation "extruded" from claims 1 and 8; this limitation is not essential to the claimed invention. For the following reasons, Applicants respectfully traverse the rejection of claims 1-15.

#### **Rejection of Claims 1-15 Under § 103**

Claims 1-15 have been rejected under 35 U.S.C. § 103(a) based on Applicants' Prior Art and U.S. Patent No. 1,227,414 ("Field") and U.S. Patent No. 4,827,597 ("Hein"). Applicants respectfully submit that the wedges that are disclosed in Field and Hein are *stator* wedges and not *rotor* wedges. This is exhibited, for example, by the convex curvature of the supporting structures illustrated in these prior art references.

Stator wedges have significantly different design concerns than rotor wedges. Magnetic characteristics are a principal concern in the design of stator wedges. Stator wedges are generally constructed of laminated segments in order to maximize their interaction with magnetic flux. Such laminated structures are not desirable for rotor wedges because they lack strength to withstand the significant centrifugal forces exerted on rotor wedges.

Strength is a principal concern in the design rotor wedges. Rotors, unlike stators, spin. As a result, there are significant centrifugal forces exerted on rotor wedges that are not exerted on stator wedges. For example, for a rotor containing conductors that weigh 300,000 lbs, the conductors exert approximately 30,000 G's of force radially outward on the rotor wedges.

**Serial No. 09/965,570**  
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Applicants have determined that bending stresses are the key stresses on rotor wedges and that the principal cause of rotor wedge failure is the propagation of stress cracks near the wedges contact surfaces. In light of this, Applicants have determined that it is possible to remove substantial material from the center of a rotor wedge without diminishing the effectiveness of the wedge, so long as the material is removed from an area about a neutral axis relative to the bending stress.

Applicants' claimed invention makes it possible to significantly reduce the weight of a rotor wedge, while maintaining substantially the same effective strength. When the weight of a rotor wedge is reduced, it becomes possible (i) to add additional copper conductor capacity to a generator to produce more power output from the same generator or (ii) to create a generator that produces the same amount of power but is significantly lighter.

In light of the above, Applicants respectfully submit that stator wedges are not analogous prior art to rotor wedges and that Field and Hein should not be the basis of the rejection of the pending claims. In addition, Applicants respectfully submit that, prior to Applicants' invention, it would have been counterintuitive for one skilled in the art to remove material from the center of a rotor wedge; thus, Applicants respectfully submit that it would be counterintuitive to combine the prior art in the manner suggested by the Examiner.

### CONCLUSION

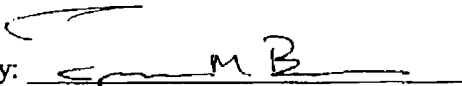
In light of the above remarks, Applicants respectfully request favorable reconsideration and allowance of claims 1-15. Should the Examiner have any questions concerning this paper or application, the Examiner is respectfully requested to contact Applicants' undersigned attorney to resolve such issue or question.

**Serial No. 09/965,570**  
**Atty. Doc. No. 01P17904US**

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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